CLAIMS

1. A method for evaluating a acidic cation-exchange resin wherein said strongly acidic cation-exchange resin is contacted with an aqueous eluting solution and polystyrenesulfonic acid being eluted from said resin is measured, comprising the steps of:

setting a plurality of molecular weight ranges in a molecular weight distribution of said polystyrenesulfonic acid eluted; and

evaluating a performance of said strongly acidic cation-exchange resin based on a relationship of each molecular weight range with an amount of said polystyrenesulfonic acid eluted in said each molecular weight range.

2. The method for evaluating a cation-exchange resin according to claim 1, wherein a weighting factor for indicating a deterioration degree of said performance of said strongly acidic cation-exchange resin is preset for said each molecular weight range, and said performance of said strongly acidic cation-exchange resin is evaluated by using the sum of values, each calculated by multiplying an amount of said polystyrenesulfonic acid eluted in said each molecular weight range by a corresponding weighting factor, as an index indicating said performance of said strongly acidic cation-exchange resin.

3. The method for evaluating a cation-exchange resin according to claim 2, wherein said weighting factor is preset for said each molecular weight range, based on a variation degree of a property of an anion-exchange resin ascribed to a polystyrenesulfonic acid eluted from said strongly acidic cation-exchange resin when said strongly acidic cation-exchange resin is used in a form of a mixed bed with said anion-exchange resin.

4. The method for evaluating a cation-exchange resin according to claim 3,

wherein said weighting factor for said each molecular weight range is set based on a variation degree of a property of an anion-exchange resin exhibited when a representative molecular weight is set for said each molecular weight range and a standard polystyrenesulfonic acid having said representative molecular weight as a known molecular weight is adsorbed on said anion-exchange resin.

5. The method for evaluating a cation-exchange resin according to claim 1, wherein said plurality of molecular weight ranges are set in a range of molecular weight of 10,000 or more.

6. The method for evaluating a cation-exchange resin according to claim 1, wherein a copper ion and/or an iron ion are adsorbed on said strongly acidic cation-exchange resin, a hydrazine aqueous solution is contacted therewith to deteriorate said resin acceleratedly, and after said copper ion and/or said iron ion are desorbed, said aqueous eluting solution is contacted to elute said polystyrenesulfonic acid into said aqueous eluting solution.

7. The method for evaluating a cation-exchange resin according to claim 1, wherein an aqueous solution containing an ammonia and a hydrazine is used as said aqueous eluting solution.

8. The method for evaluating a cation-exchange resin according to claim 1, wherein a performance of a cation-exchange resin used in a condensate demineralizer of a power plant is evaluated.

9. A method for controlling a water treatment system comprising the steps of:

applying a method for evaluating a cation-exchange resin, wherein a strongly acidic cation-exchange resin is contacted with an aqueous eluting solution, and when

polystyrenesulfonic acid being eluted from said resin is measured, a plurality of molecular weight ranges are set in a molecular weight distribution of said polystyrenesulfonic acid eluted, and a performance of said strongly acidic cation-exchange resin is evaluated based on a relationship of each molecular weight range with an amount eluted in said each molecular weight range, to an evaluation of a cation-exchange resin used in a water treatment system; and

determining a timing for replacement of said cation-exchange resin based on the result of said evaluation.

10. The method for controlling a water treatment system according to claim 9, wherein a weighting factor for indicating a deterioration degree of said performance of said cation-exchange resin is preset for said each molecular weight range of said cation-exchange resin used in said water treatment system, and said performance of said cation-exchange resin is evaluated by using the sum of values, each calculated by multiplying an amount eluted in said each molecular weight range by a corresponding weighting factor, as an index indicating said performance capability of said cation-exchange resin.

11. The method for controlling a water treatment system according to claim 10, wherein an upper limit is set to said sum of values, each calculated by multiplying an amount eluted in said each molecular weight range by a corresponding weighting factor, and said cation-exchange resin is used in a range of said upper limit or less.

12. The method for controlling a water treatment system according to claim 11, wherein with respect to said sum, a criterion value, which is lower than said upper limit, is set for starting to prepare the replacement of said cation-exchange resin being used.

13. The method for controlling a water treatment system according to claim 9, wherein a performance of a cation-exchange resin used in a condensate demineralizer of a power plant is evaluated, and based on the result of the evaluation, a timing for replacement of said cation-exchange resin is determined.